

IV. Application

A. Forecasting

1. Using the information from the maps you have, forecast where the clouds will be in three days. Draw them in their new positions on the map of the United States.



Three days from the time you complete this activity watch the news. Look to see where the clouds actually are to check your answer. You can also go back to the "Satellite Images" site in Gather Data.3 section E and follow the directions to get the day's satellite image.

B. Wind Direction and Air Masses

1. If you were standing on the edge of a thunderstorm as it begins to form, would the wind be blowing into the storm or out of it, and why? (Review section E in the Get Info section if you need help.)

- Click "Forward" at the bottom of the screen.


C. How Maps Show Relationships among Weather Phenomena

- Select the "Weather Graphics" site from your Bookmarks or Favorites to compare the sea level pressure to wind vectors.


1. How can you estimate the wind speed and direction using the pressure map?

- Close the "Sea Level Pressure with Wind Vectors" map and then compare the sea level pressure to temperature.

2. How are pressure and temperature related?

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- Close the "Sea Level Pressure with Wind Vectors" map and then compare the sea level pressure to clouds.

3. How are pressure and clouds related?

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- Close the "Sea Level Pressure with IR Satellite" map.
 - Click "Forward" at the bottom of the screen.

D. Wind Chill

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- Click on the "Wind Chill" site.



1. What is wind chill?

2. How does the wind chill affect your car?

3. Calculate how cold it feels if the temperature is 10 degrees F and the wind is blowing 15 miles per hour. Wind chill = _____



4. Calculate how cold it feels if the temperature is 35 degrees F and the wind is blowing 24 miles per hour. Wind chill = _____



- Click "Back" to return to the Forecasting "Application.3" page.

E. Use of Maps



1. How does weather forecasting affect people's daily lives?

2. How does forecasting affect people's entertainment activities?

3. How would forecasting and archived weather knowledge affect planning festivals and other large public gatherings?



- Click "Back" until you return to the Forecasting main page or choose "Forecasting" from Bookmarks or Favorites on your web browser.
- Click on "Enrichment.1".

V. Enrichment Activities

A. Newspaper Use

1. Collect the weather maps from your newspaper for one week. Glue or staple each one on a sheet of paper. After each day, make a prediction what the weather patterns will be for the next day. Check the weather map to see if you are correct.
2. Collect news articles about weather and its effects on areas and people. Summarize each article.



B. Observations

1. Record the types of clouds you see each day for five days (or longer). Draw and label each type.
2. Visit this site for pictures and explanations of cloud types:
<http://vortex.plymouth.edu/clouds.html>.
3. Make a list of all the lyrics or song titles that are about weather.
- Click "Forward" at the bottom of the screen.


C. Interviews

1. Interview a meteorologist from a radio or TV station. Develop a list of questions to ask this person over the phone. For example, find out what the job is like, what type of education is needed, and how computers help forecasting.
2. Interview your grandparents or other people about "folk tales" related to weather. For example, some older people say because their bones hurt, they know it's going to rain soon.

D. Measurements

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1. Set up a weather station at home or school. You'll need a thermometer, barometer, anemometer, and hydrometer. Record the weather conditions and make predictions based on the data you collect. For help in taking measurements, go to the site <http://www.4seasons.org.uk/projects/weather/measure.htm>.
 2. Record the amount of rainfall in your area for a month. Graph the amount each day on a line graph.

E. Related web sites

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1. Weather Glossary
<http://www.wrh.noaa.gov/spokane/outreach/school/apxb.htm>
 2. Radar Glossary
<http://www.pa.op.dlr.de/poldirad/docs/glossary.html>
 3. Hydrologic (water related) Glossary
<http://www.crh.noaa.gov/hsd/hydefa-c.html>
 4. Reading and Interpreting Weather Phenomena
[http://ww2010.atmos.uiuc.edu/\(Gh\)/guides/maps/home.rxml](http://ww2010.atmos.uiuc.edu/(Gh)/guides/maps/home.rxml)
 5. Weather Charting
<http://vathena.arc.nasa.gov/curric/weather/graphing/>